

LFW



Group Art Unit: 1755  
Examiner: Not Yet Assigned

In re Application of  
Kenneth E. Bailey Jr.  
Alice M. Rogers  
Gerald R. Shetron  
Larry J. Ingram

# STARCH BINDER COMPOSITIONS, METHODS OF MAKING THE SAME AND PRODUCTS FORMED THEREFROM

Serial No.: 10/820,972

Filing Date: April 8, 2004

Attorney Docket: 030621

REQUEST FOR CORRECTED FILING RECEIPT

July 2, 2004

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**Sir:**

Reference is made to the above-identified patent application and our receipt of the Filing Receipt relating thereto. It is noted that the name of the first inventor, as listed on the Filing Receipt, is incorrect. The correct inventors name is --Kenneth E. Bailey Jr.-- as indicated on the transmittal papers, patent application, and Declaration, relevant copies of which are enclosed.

"Express Mail" mailing label number ED152228811US

Date of Deposit July 2, 2004

I hereby certify that this paper or fee is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 on the date indicated above and is addressed to the Commissioner of Patents, Washington, P.O. Box 1450, Alexandria, VA 22313-1450

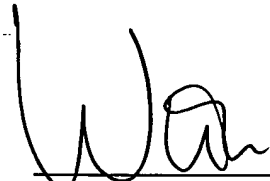
PI-1188385 v1 0233040-0104

Patricia A. Mach

The name listed on the Filing Receipt should be deleted and replaced with the above-identified correct inventor. Enclosed is a copy of the Filing Receipt with this error identified, and the handwritten correction clearly marked thereon.

Applicants respectfully request issuance of a corrected Filing Receipt.

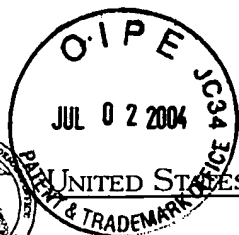
Respectfully submitted,

  
\_\_\_\_\_  
William E. Kuss  
Registration No. 41,919

KIRKPATRICK & LOCKHART LLP  
Henry W. Oliver Building  
535 Smithfield Street  
Pittsburgh, Pennsylvania 15222

Telephone: (412) 355-6323  
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Customer No. 41,835

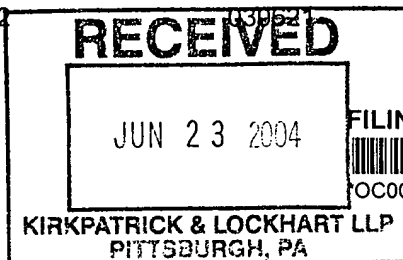


UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
 United States Patent and Trademark Office  
 Address: COMMISSIONER FOR PATENTS  
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APPL NO.	FILING OR 371 (c) DATE	ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	DRAWINGS	TOT CLMS	IND CLMS
10/820,972	04/08/2004	1755	1392	039521	6	45	5

41835  
 KIRKPATRICK & LOCKHART LLP  
 HENRY W. OLIVER BUILDING  
 535 SMITHFIELD STREET  
 PITTSBURGH, PA 15222



CONFIRMATION NO. 9539

FILING RECEIPT



OC00000013005451\*

Date Mailed: 06/21/2004

Receipt is acknowledged of this regular Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Filing Receipt Corrections, facsimile number 703-746-9195. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).

Applicant(s)

Kenneth E. Bailey, Jr.

Kenneth E. Bailey JR., Dodge City, KS;  
 Alice M. Rogers, Spearville, KS;  
 Gerald R. Shetron, Dodge City, KS;  
 Larry J. Ingram, Lenexa, KS;

Domestic Priority data as claimed by applicant

Foreign Applications

If Required, Foreign Filing License Granted: 06/20/2004

Projected Publication Date: 10/13/2005

Non-Publication Request: No

Early Publication Request: No

Title

Starch binder compositions, methods of making the same and products formed therefrom



**Preliminary Class**

106

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**LICENSE FOR FOREIGN FILING UNDER  
Title 35, United States Code, Section 184  
Title 37, Code of Federal Regulations, 5.11 & 5.15**

**GRANTED**

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Office of Export Administration, Department of Commerce (15 CFR 370.10 (j)); the Office of Foreign Assets Control, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

**NOT GRANTED**

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

PATENT

Applicants : Bailey, Jr. et al.  
For: STARCH BINDER COMPOSITIONS, METHODS OF  
MAKING THE SAME AND PRODUCTS FORMED  
THEREFROM

Serial No.: 10/820,972

Filed: April 8, 2004

Commissioner for Patents  
P.O. Box: 1450  
Alexandria, VA 22313-1450

EXPRESS MAIL CERTIFICATE

"Express Mail" label number EU990162176US

Date of Deposit June 16, 2004

I hereby certify that the following attached paper or fee

3.73 STATEMENT (with copy of the executed Assignment)

is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 on the date indicated above and is addressed to: Commissioner for Patents, P.O. Box: 1450, Alexandria, VA 22313-1450

Beth H. Retort

(Typed or printed name of person mailing paper or fee)

(Signature of person mailing paper or fee)

NOTE: Each paper must have its own certificate and the "Express Mail" label number as a part thereof or attached thereto. When, as here, the certification is presented on a separate sheet, that sheet must (1) be signed and (2) fully identify and be securely attached to the paper or fee it accompanies. Identification should include the serial number and filing date of the application as well as the type of paper being filed, e.g. complete application, specification and drawings, responses to rejection or refusal, notice of appeal, etc. If the serial number of the application is not known, the identification should include at least the name of the inventor(s) and the title of the invention.

NOTE: The label number need not be placed in each page. It should, however, be placed on the first page of each separate document, such as, a new application, amendment, assignment, and transmittal letter for a fee, along with the certificate of mailing by "Express Mail." Although the label number may be on checks, such a practice is not required. In order not to deface formal drawings it is suggested that the label number be placed on the back of each formal drawing or the drawings be accompanied by a set of informal drawings on which the label number is placed.

(Express Mail Certificate [8-3])



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

PATENT

Applicants : Bailey, Jr. et al.

For: STARCH BINDER COMPOSITIONS, METHODS OF  
MAKING THE SAME AND PRODUCTS FORMED  
THEREFROM

Serial No.: 10/820,972

Filed: April 8, 2004

Commissioner for Patents  
P.O. Box: 1450  
Alexandria, VA 22313-1450

EXPRESS MAIL CERTIFICATE

"Express Mail" label number EU990162176US

Date of Deposit June 15, 2004

I hereby certify that the following attached paper or fee

3.73 STATEMENT (with copy of the executed Assignment)

is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 on the date indicated above and is addressed to: Commissioner for Patents, P.O. Box: 1450, Alexandria, VA 22313-1450

Beth H. Retort

(Typed or printed name of person mailing paper or fee)

(Signature of person mailing paper or fee)

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NOTE: The label number need not be placed in each page. It should, however, be placed on the first page of each separate document, such as, a new application, amendment, assignment, and transmittal letter for a fee, along with the certificate of mailing by "Express Mail." Although the label number may be on checks, such a practice is not required. In order not to deface formal drawings it is suggested that the label number be placed on the back of each formal drawing or the drawings be accompanied by a set of informal drawings on which the label number is placed.

(Express Mail Certificate [8-3])



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
37 C.F.R. § 3.73(b) Statement

Applicants : Bailey, Jr. et al.

For: STARCH BINDER COMPOSITIONS, METHODS OF MAKING THE  
SAME AND PRODUCTS FORMED THEREFROM

Serial No.:

Filed:

**Archer-Daniels-Midland Company (a Delaware corporation)** is the assignee of the entire right, title and interest in the patent identified above by virtue of either:

- A. ☒ An assignment from the inventor(s) of the **patent application** identified above. The assignment was recorded in the United States Patent and Trademark Office on \_\_\_\_\_ at  
Reel \_\_\_\_\_, Frame \_\_\_\_\_ or for which a copy thereof is attached.

OR

- B. ☐ A chain of title from the inventor(s) of the patent application identified above to the current assignee as shown below:

1. From \_\_\_\_ To: \_\_\_\_

The document was recorded in the United States Patent and Trademark Office on \_\_\_\_\_ at  
Reel \_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.

- ☐ Copies of assignments or other documents in the chain of title are attached.

The undersigned (whose title is supplied below) is empowered to sign this statement on behalf of the assignee.

**Power Of Attorney**

I hereby revoke all previous powers of attorney, if any, and appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith:

Tim S. Bedard,  
Roberto Capriotti  
George D. Dickos,  
Thomas J. Edgington,  
Christine R. Ethridge,  
Kami Lammon-Hilinski  
Jesse A. Hirshman,  
Mark G. Knedeisen,  
William E. Kuss,  
James R. Kyper,  
Michael D. Lazzara,

Reg. No. 53,978  
Reg. No. 46,599  
Reg. No. 30,048  
Reg. No. 34,324  
Reg. No. 30,557  
Reg. No. 51,913  
Reg. No. 40,016  
Reg. No. 42,747  
Reg. No. 41,919  
Reg. No. 27,346  
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Mark R. Leslie,  
Daniel R. Miller,  
Franklin B. Molin,  
Robert A. Muha,  
Mark A. Nuzzo,  
Jonathan C. Parks,  
Bernard G. Pike  
Robert V. Racunas, Jr.  
David Schramm  
Craig M. Waller,  
Robert D. Yeager

Reg. No. 36,360  
Reg. No. 52,030  
Reg. No. 37,397  
Reg. No. 44,249  
Reg. No. 53,396  
Reg. No. 40,120  
Reg. No. 46,993  
Reg. No. 43,027  
Reg. No. 41,295  
Reg. No. 54,771  
Reg. No. 25,047

**Please Direct All Correspondence to:** William E. Kuss, Esq.  
Kirkpatrick & Lockhart, LLP  
Henry W. Oliver Building  
535 Smithfield Street  
Pittsburgh, PA 15222-2312

**Declaration**

I hereby declare that my presentation of this paper constitutes a certification under 37 C.F.R § 10.18, which provides, in part, that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and that further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful statements may jeopardize the validity of the application and any patent issuing therefrom.

Date

*April 12, 2004*

Signature

*[Handwritten Signature]*

Name

David J. Smith

Title

Executive Vice-President, Secretary and General Counsel



Attorney's Docket No. 030621

**PATENT**

For: ☒ U.S. and/or ☒ Foreign Rights  
For: ☒ U.S. Application or  
☐ U.S. Provisional Application  
For: ☐ U.S. Patent  
For: ☐ PCT Application  
By: Multiple Inventors

**ASSIGNMENT OF INVENTION (MULTIPLE INVENTORS)**

In consideration of the payment by ASSIGNEE to ASSIGNOR of the sum of One Dollar (\$1.00), the receipt of which is hereby acknowledged, and for other good and valuable consideration,

**ASSIGNORS (Inventors):**

Kenneth E. Bailey, Jr.  
(type or print name of inventors)

2006 Manor Drive  
Dodge City, KS 67801 USA  
Address Nationality

Alice M. Rogers

RR 2 Box 224  
Spearville, KS 67876 USA

Gerald R. Shetron

11165 Quaker Road  
Dodge City, KS 67801 USA

Larry J. Ingram

9823 Vista Drive  
Lenexa, KS 66220 USA

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\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

hereby sells, assigns and transfers to

ASSIGNEE:

Archer-Daniels-Midland Company

(type or print name of ASSIGNEE)

4666 East Faries Parkway

Address

(a Delaware corporation)

Nationality

Decatur, IL 62526

and the successors, assigns and legal representatives of the ASSIGNEE

(complete one of the following)

☒ the entire right, title and interest

☐ an undivided \_\_\_\_\_ percent ( \_\_\_\_\_ %) interest for the United States and its territorial possessions

(check the following box, if foreign rights are also to be assigned)

☒ and in all foreign countries, including all rights to claim priority, in and to any and all improvements which are disclosed in the invention entitled: **STARCH BINDER COMPOSITIONS, METHODS OF MAKING THE SAME AND PRODUCTS FORMED THEREFROM**

(check and complete (a), (b), (c), (d), (e), (f) or (g))

and which is found in

(a) ☒ U.S. patent application executed on even date herewith

(b) ☐ U.S. patent application executed on \_\_\_\_\_

(c) ☐ U.S. provisional application naming the above inventor(s) for the above-entitled invention

☐ Express mail label no.: \_\_\_\_\_

Mailed: \_\_\_\_\_

☐ To comply with 37 CFR 3.21 for recordal of this assignment, I, an ASSIGNOR signing below, hereby authorize and request my attorney to insert below the filing date and application number when they become known.

(d) ☐ U.S. application no.: \_\_\_\_\_ filed on \_\_\_\_\_

(e) ☐ International application no. PCT / \_\_\_\_\_ / \_\_\_\_\_  
filed on \_\_\_\_\_

(f) ☐ U.S. patent no. \_\_\_\_\_ issued \_\_\_\_\_

☐ A change of address to which correspondence is to be sent regarding patent maintenance fees is being sent separately.

(also check (g), if foreign application(s) is also being assigned)

- (g) ☒ and any legal equivalent thereof in a foreign country, including the right to claim priority and, in and to, all Letters Patent to be obtained for said invention by the above application or any continuation, division, renewal, or substitute thereof, and as to letters patent any reissue or re-examination thereof.

ASSIGNOR hereby covenants that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this assignment.

ASSIGNOR further covenants that ASSIGNEE will, upon its request, be provided promptly with all pertinent facts and documents relating to said invention and said Letters Patent and legal equivalents as may be known and accessible to ASSIGNOR and will testify as to the same in any interference, litigation or proceeding related thereto and will promptly execute and deliver to ASSIGNEE or its legal representatives any and all papers, instruments or affidavits required to apply for, obtain, maintain, issue and enforce said application, said invention and said Letters Patent and said equivalents thereof which may be necessary or desirable to carry out the purposes thereof.

IN WITNESS WHEREOF, We have hereunto set hand and seal on the date(s) indicated below.

WARNING: The date of signing must be the same as the date of execution of the application, if item (a) was checked above.

Kenneth E. Bailey, Jr.  
(type name of Inventor)

Alice M. Rogers  
(type name of Inventor)

Gerald R. Shetron  
(type name of Inventor)

Larry J. Ingram  
(type name of Inventor)

[Signature]  
Signature of INVENTOR

4-8-04  
Date

[Signature]  
Signature of INVENTOR

4-8-04  
Date

[Signature]  
Signature of INVENTOR

4-8-04  
Date

\_\_\_\_\_  
Signature of INVENTOR

\_\_\_\_\_  
Date

☐ Notarization or Legalization Page Added.

NOTE: No witnessing, notarization or legalization is necessary. If the assignment is notarized or legalized, then it will only be prima facie evidence of execution. 35 USC 261. Use next page if notarization is desired.

BEST AVAILABLE COPY

Attorney's Docket No. 030621

**PATENT**

For: ☒ U.S. and/or ☒ Foreign Rights  
For: ☒ U.S. Application or  
☐ U.S. Provisional Application  
For: ☐ U.S. Patent  
For: ☐ PCT Application  
By: Multiple Inventors

**ASSIGNMENT OF INVENTION (MULTIPLE INVENTORS)**

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**ASSIGNORS (Inventors):**

Kenneth E. Bailey, Jr.  
(type or print name of inventors)

2006 Manor Drive  
Dodge City, KS 67801 USA  
Address Nationality

Alice M. Rogers

RR 2 Box 224  
Spearville, KS 67876 USA

Gerald R. Shetron

11165 Quaker Road  
Dodge City, KS 67801 USA

Larry J. Ingram

9823 Vista Drive  
Lenexa, KS 66220 USA

\_\_\_\_\_

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hereby sells, assigns and transfers to

ASSIGNEE:

Archer-Daniels-Midland Company  
(type or print name of ASSIGNEE)

4666 East Faries Parkway  
Address

(a Delaware corporation)  
Nationality

Decatur, IL 62526

and the successors, assigns and legal representatives of the ASSIGNEE

(complete one of the following)

☒ the entire right, title and interest

☐ an undivided \_\_\_\_\_ percent ( \_\_\_\_\_ %) interest for the United States and its territorial possessions

(check the following box, if foreign rights are also to be assigned)

☒ and in all foreign countries, including all rights to claim priority, in and to any and all improvements which are disclosed in the invention entitled: **STARCH BINDER COMPOSITIONS, METHODS OF MAKING THE SAME AND PRODUCTS FORMED THEREFROM**

(check and complete (a), (b), (c), (d), (e), (f) or (g))

and which is found in

(a) ☒ U.S. patent application executed on even date herewith

(b) ☐ U.S. patent application executed on \_\_\_\_\_

(c) ☐ U.S. provisional application naming the above inventor(s) for the above-entitled invention

☐ Express mail label no.: \_\_\_\_\_

Mailed: \_\_\_\_\_

☐ To comply with 37 CFR 3.21 for recordal of this assignment, I, an ASSIGNOR signing below, hereby authorize and request my attorney to insert below the filing date and application number when they become known.

(d) ☐ U.S. application no.: \_\_\_\_\_ filed on \_\_\_\_\_

(e) ☐ International application no. PCT / \_\_\_\_\_ / \_\_\_\_\_  
filed on \_\_\_\_\_

(f) ☐ U.S. patent no. \_\_\_\_\_ issued \_\_\_\_\_

☐ A change of address to which correspondence is to be sent regarding patent maintenance fees is being sent separately.

(also check (g), if foreign application(s) is also being assigned)

- (g) ☒ and any legal equivalent thereof in a foreign country, including the right to claim priority and, in and to, all Letters Patent to be obtained for said invention by the above application or any continuation, division, renewal, or substitute thereof, and as to letters patent any reissue or re-examination thereof.

ASSIGNOR hereby covenants that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this assignment;

ASSIGNOR further covenants that ASSIGNEE will, upon its request, be provided promptly with all pertinent facts and documents relating to said invention and said Letters Patent and legal equivalents as may be known and accessible to ASSIGNOR and will testify as to the same in any interference, litigation or proceeding related thereto and will promptly execute and deliver to ASSIGNEE or its legal representatives any and all papers, instruments or affidavits required to apply for, obtain, maintain, issue and enforce said application, said invention and said Letters Patent and said equivalents thereof which may be necessary or desirable to carry out the purposes thereof.

IN WITNESS WHEREOF, We have hereunto set hand and seal on the date(s) indicated below.

WARNING: The date of signing must be the same as the date of execution of the application, if item (a) was checked above.

Kenneth E. Bailey, Jr.  
(type name of Inventor)

Signature of INVENTOR

Date

Alice M. Rogers  
(type name of Inventor)

Signature of INVENTOR

Date

Gerald R. Shetron  
(type name of Inventor)

Signature of INVENTOR

Date

Larry J. Ingram  
(type name of Inventor)

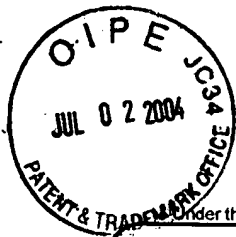
Signature of INVENTOR

Date

*Larry J. Ingram* 4/8/04  
April 8, 2004

☐ Notarization or Legalization Page Added.

NOTE: No witnessing, notarization or legalization is necessary. If the assignment is notarized or legalized, then it will only be prima facie evidence of execution. 35 USC 261. Use next page if notarization is desired.



PTO/SB/05 (01-04)  
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U.S. Patent and Trademark Office. U.S. DEPARTMENT OF COMMERCE  
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# UTILITY PATENT APPLICATION TRANSMITTAL

(Only for new nonprovisional applications under 37 CFR 1.53(b))

Attorney Docket No.	030621
First Inventor	Kenneth E. Bailey, Jr.
Title	STARCH BINDER COMPOSITIONS..
Express Mail Label No.	EU990161428US

## APPLICATION ELEMENTS

See MPEP chapter 600 concerning utility patent application contents.

## ADDRESS TO:

Mail Stop Patent Application  
Commissioner for Patents  
P.O. Box 1450  
Alexandria VA 22313-1450

- ☒ Fee Transmittal Form (e.g., PTO/SB/17)  
(Submit an original and a duplicate for fee processing)
- ☐ Applicant claims small entity status.  
See 37 CFR 1.27.
- ☒ Specification [Total Pages 31]  
(preferred arrangement set forth below)
  - Descriptive title of the invention
  - Cross Reference to Related Applications
  - Statement Regarding Fed sponsored R & D
  - Reference to sequence listing, a table, or a computer program listing appendix
  - Background of the Invention
  - Brief Summary of the Invention
  - Brief Description of the Drawings (if filed)
  - Detailed Description
  - Claim(s)
  - Abstract of the Disclosure
- ☒ Drawing(s) (35 U.S.C. 113) [Total Sheets 6]
- Oath or Declaration [Total Sheets 8]
  - ☒ Newly executed (original or copy)
  - ☐ Copy from a prior application (37 CFR 1.63(d))  
(for continuation/divisional with Box 18 completed)
  - ☐ **DELETION OF INVENTOR(S)**  
Signed statement attached deleting inventor(s)  
name in the prior application, see 37 CFR 1.63(d)(2) and 1.33(b).
- ☐ Application Data Sheet. See 37 CFR 1.76

- ☐ CD-ROM or CD-R in duplicate, large table or Computer Program (Appendix)
- Nucleotide and/or Amino Acid Sequence Submission (if applicable, all necessary)
  - ☐ Computer Readable Form (CRF)
  - Specification Sequence Listing on:
    - ☐ CD-ROM or CD-R (2 copies); or
    - ☐ Paper
  - ☐ Statements verifying identity of above copies

## ACCOMPANYING APPLICATION PARTS

- ☒ Assignment Papers (cover sheet & document(s))
- ☐ 37 CFR 3.73(b) Statement (when there is an assignee) ☐ Power of Attorney
- ☐ English Translation Document (if applicable)
- ☒ Information Disclosure Statement (IDS)/PTO-1449 ☒ Copies of IDS Citations
- ☐ Preliminary Amendment
- ☒ Return Receipt Postcard (MPEP 503)  
(Should be specifically itemized)
- ☐ Certified Copy of Priority Document(s)  
(if foreign priority is claimed)
- ☐ Nonpublication Request under 35 U.S.C. 122 (b)(2)(B)(i). Applicant must attach form PTO/SB/35 or its equivalent.
- ☐ Other: .....

18. If a CONTINUING APPLICATION, check appropriate box, and supply the requisite information below and in the first sentence of the specification following the title, or in an Application Data Sheet under 37 CFR 1.76:

☐ Continuation ☐ Divisional ☐ Continuation-in-part (CIP) of prior application No.: .....

Prior application information:

Examiner: .....

Art Unit: .....

For CONTINUATION OR DIVISIONAL APPS only; The entire disclosure of the prior application, from which an oath or declaration is supplied under Box 5b, is considered a part of the disclosure of the accompanying continuation or divisional application and is hereby incorporated by reference. The incorporation can only be relied upon when a portion has been inadvertently omitted from the submitted application parts.

## 19. CORRESPONDENCE ADDRESS

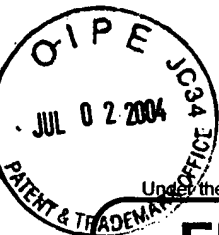
☒ Customer Number: 41835 OR ☐ Correspondence address below

Name			
Address			
City	State	Zip Code	
Country	Telephone	Fax	

Name (Print/Type)	<u>William E. Kuss</u>	Registration No. (Attorney/Agent)	<u>41,919</u>
Signature	<u>[Signature]</u>	Date	<u>4/8/04</u>

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# FEE TRANSMITTAL for FY 2004

Effective 10/01/2003. Patent fees are subject to annual revision.

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$)  
1,432.00

## Complete if Known

Application Number	
Filing Date	
First Named Inventor	Kenneth E. Bailey, Jr.
Examiner Name	
Art Unit	
Attorney Docket No.	030621

## METHOD OF PAYMENT (check all that apply)

☒ Check ☐ Credit card ☐ Money Order ☐ Other ☐ None

☐ Deposit Account:

Deposit  
Account  
Number  
Deposit  
Account  
Name

11-1110

Kirkpatrick & Lockhart LLP

The Director is authorized to: (check all that apply)

☐ Charge fee(s) indicated below ☒ Credit any overpayments

☒ Charge any additional fee(s) or any underpayment of fee(s)

☐ Charge fee(s) indicated below, except for the filing fee to the above-identified deposit account.

## FEE CALCULATION

### 1. BASIC FILING FEE

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
1001	770	2001	385	Utility filing fee	770.00
1002	340	2002	170	Design filing fee	
1003	530	2003	265	Plant filing fee	
1004	770	2004	385	Reissue filing fee	
1005	160	2005	80	Provisional filing fee	
SUBTOTAL (1)					(\$ 770.00)

### 2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

Total Claims 45 -20\*\* = 25 x 18.00 = 450.00  
Independent Claims 5 -3\*\* = 2 x 86.00 = 172.00  
Multiple Dependent ☐ = ☐

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
1202	18	2202	9	Claims in excess of 20	622.00
1201	86	2201	43	Independent claims in excess of 3	
1203	290	2203	145	Multiple dependent claim, if not paid	
1204	86	2204	43	** Reissue independent claims over original patent	
1205	18	2205	9	** Reissue claims in excess of 20 and over original patent	
SUBTOTAL (2)					(\$ 622.00)

\*\*or number previously paid, if greater; For Reissues, see above

## FEE CALCULATION (continued)

### 3. ADDITIONAL FEES

Large Entity Small Entity

Fee Code	Fee (\$)	Fee Code	Fee (\$)	Fee Description	Fee Paid
1051	130	2051	65	Surcharge - late filing fee or oath	
1052	50	2052	25	Surcharge - late provisional filing fee or cover sheet	
1053	130	1053	130	Non-English specification	
1812	2,520	1812	2,520	For filing a request for ex parte reexamination	
1804	920*	1804	920*	Requesting publication of SIR prior to Examiner action	
1805	1,840*	1805	1,840*	Requesting publication of SIR after Examiner action	
1251	110	2251	55	Extension for reply within first month	
1252	420	2252	210	Extension for reply within second month	
1253	950	2253	475	Extension for reply within third month	
1254	1,480	2254	740	Extension for reply within fourth month	
1255	2,010	2255	1,005	Extension for reply within fifth month	
1401	330	2401	165	Notice of Appeal	
1402	330	2402	165	Filing a brief in support of an appeal	
1403	290	2403	145	Request for oral hearing	
1451	1,510	1451	1,510	Petition to institute a public use proceeding	
1452	110	2452	55	Petition to revive - unavoidable	
1453	1,330	2453	665	Petition to revive - unintentional	
1501	1,330	2501	665	Utility issue fee (or reissue)	
1502	480	2502	240	Design issue fee	
1503	640	2503	320	Plant issue fee	
1460	130	1460	130	Petitions to the Commissioner	
1807	50	1807	50	Processing fee under 37 CFR 1.17(q)	
1806	180	1806	180	Submission of Information Disclosure Stmt	
8021	40	8021	40	Recording each patent assignment per property (times number of properties)	40.00
1809	770	2809	385	Filing a submission after final rejection (37 CFR 1.129(a))	
1810	770	2810	385	For each additional invention to be examined (37 CFR 1.129(b))	
1801	770	2801	385	Request for Continued Examination (RCE)	
1802	900	1802	900	Request for expedited examination of a design application	

Other fee (specify)

\*Reduced by Basic Filing Fee Paid

SUBTOTAL (3) (\$ 40.00)

## SUBMITTED BY

(Complete if applicable)

Name (Print/Type)	William E. Kuss	Registration No. (Attorney/Agent)	41,919	Telephone	412/355-6323
Signature		Date	4/8/04		

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# STARCH BINDER COMPOSITIONS, METHODS OF MAKING THE SAME AND PRODUCTS FORMED THEREFROM

Kenneth E. Bailey, Jr.

Alice M. Rogers

Gerald R. Shetron

Larry J. Ingram

## FIELD OF THE INVENTION

[0001] The present invention is directed to starch binder compositions, methods of forming the same, and products formed therefrom.

## BACKGROUND

[0002] Gypsum board is a popular and conventional building material that is used in various types of building products such as, for example, walls, floors, and ceiling boards. Gypsum wallboard comprises a core material positioned between two porous sheet members, such as paperboard. The core material is typically formed from a plaster slurry that includes the combination of calcined gypsum, a reinforcing agent, a surfactant agent, a binder material, and water. The slurry is deposited and pressed between two continuous sheets of paper that are then allowed to take a "set" as the continuous sheet is conveyed to a cutter station where the board is cut into the desired lengths. The cut sheets may then be conveyed through drying kilns to remove excess moisture from the board and to enhance the migration of the soluble sugars (dextrins) in the acid modified starch to the paper/core interface to form a chemical bond.

[0003] Acid modified industrial grain sorghum, a thin boiling starch, is a known core binder material that is added to the plaster slurry in the manufacture of gypsum wallboard. When added to the slurry and pressed between the paperboard sheets, the soluble sugars of the modified sorghum migrate toward and partially into the sheets during the set and drying stage of manufacture, thereby promoting a chemical bond between the paper and core interface.